Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) An apparatus for detecting an IP (Internet Protocol) address of a device connected to a subnet network, comprising: a search IP address detector for detecting at least one search IP address from IP addresses which are selected from a predetermined number of IP addresses as a unit from possible IP addresses on the subnet network; an IP address detector for detecting an IP address of a target device on the subnet network from the at least one search IP address detected; and a controller for terminating a subnet network information detection operation either when all possible IP addresses on the subnet network have been selected or when the IP address of the target device has been detected.

2. (Original) The apparatus according to claim 1, wherein the IP address detector includes at least one of: a DNS server detector for detecting an IP address of a DNS (Domain Name System) server; and a router detector for detecting an IP address of a router.

3. (Original) The apparatus according to claim 2, wherein the IP address detector further includes a service detector for detecting an IP address of a device providing a service other than services of the DNS server and the router.

4. (Previously Presented) An apparatus for detecting an IP (Internet Protocol) address on a subnet network including at least a DNS (Domain Name System) server, comprising: a search IP address detector for detecting at least one search IP address from possible IP addresses on the subnet network; a DNS message communication section for sending a DNS query message to the at least one search IP address and receiving a response message to the DNS query message; and a DNS server detector for discriminating a DNS

response message from the response message to detect an IP address of a DNS server originating the DNS response message.

5. (Previously Presented) The apparatus according to claim 4, wherein the search IP address detector sends an ARP (Address Resolution Protocol) request at a time to IP addresses which are selected every a predetermined number of IP addresses as a unit from the possible IP addresses on the subnet network, and detects the at least one search IP address from an ARP response to the ARP request.

6. (Original) The apparatus according to claim 4, wherein the DNS query message is a message with resetting QR bit of DNS protocol header, which is a message of at least one type selected from a group of standard query, inverse query, server status request and update.

7. (Original) The apparatus according to claim 4, further comprising: an ICMP message communication section for sending an ICMP echo query message to the at least one search IP address and receiving an ICMP response message to the ICMP echo query message; and a router detector for detecting an IP address of a router originating the ICMP response message.

8. (Original) The apparatus according to claim 5, further comprising. an ICMP message communication section for sending an ICMP echo query message to the at least one search IP address and receiving an ICMP response message to the ICMP echo query message; and a router detector for detecting an IP address of a router originating the ICMP response message.

9. (Original) The apparatus according to claim 7, wherein the ICMP response message is one of an ICMP redirect request message and an ICMP time exceed message.

10. (Original) The apparatus according to claim 8, wherein the ICMP response message is one of an ICMP redirect request message and an ICMP time exceed message.

11. (Previously Presented) A method for detecting an IP (Internet Protocol) address of a device connected to a subnet network, comprising: selecting IP addresses in unit of a predetermined number of IP addresses from possible IP addresses on the subnet network; detecting at least one search IP address from a selected set of IP addresses; detecting an IP address of a target device from the at least one search IP address detected; and terminating a subnet network information detection operation either when all possible IP addresses on the network have been selected or when the IP address of the target device has been detected.

12. (Previously Presented) A method for detecting an IP (Internet Protocol) address on a subnet network including at least a DNS (Domain Name System) server, comprising: detecting at least one search IP address from possible IP addresses on the subnet network; sending a DNS query message to the at least one search IP address; receiving a response message to the DNS query message; and discriminating a DNS response message from the response message to detect an IP address of a DNS server originating the DNS response message.

13. (Previously Presented) The method according to claim 12, wherein the step of detecting the at least one search IP address comprises: sending an ARP (Address Resolution Protocol) request at a time to IP addresses which are selected every a predetermined number

of IP addresses as a unit from the possible IP addresses on the subnet network; and detecting the at least one search IP address from an ARP response to the ARP request.

14. (Previously Presented) A program instructing a computer to a subnet network information detection operation for detecting an IP (Internet Protocol) address of a device connected to a subnet network, comprising the steps of: selecting IP addresses in unit of a predetermined number of IP addresses from possible IP addresses on the subnet network; detecting at least one search IP address from a selected set of IP addresses; detecting an IP address of a target device from the at least one search IP address detected; and terminating a subnet network information detection operation either when all possible IP addresses on the subnet network have been selected or when the IP address of the target device has been detected.

15. (Previously Presented) A program instructing a computer to a subnet network information detection operation for detecting an IP (Internet Protocol) address on a subnet network including at least a DNS (Domain Name System) server, comprising the steps of: detecting at least one search IP address from possible IP addresses on the subnet network; sending a DNS query message to the at least one search IP address; receiving a response message to the DNS query message; and discriminating a DNS response message from the response message to detect an IP address of a DNS server originating the DNS response message.

16. (Previously Presented) The program according to claim 15, wherein the step of detecting the at least one search IP address comprises: sending an ARP (Address Resolution Protocol) request at a time to IP addresses which are selected every a predetermined number of IP addresses as a unit from the possible IP addresses on the subnet network; and detecting the at least one search IP address from an ARP response to the ARP request.